

PLEASE AMEND THE CLAIMS AS FOLLOWS:

1. (Previously amended) A purified and isolated polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO: 2.

~~2.~~ (Canceled) The polynucleotide of claim 1 wherein the polynucleotide comprises nucleotides selected from the group consisting of natural, non-natural and modified nucleotides.

~~3.~~ (Canceled) The polynucleotide of claim 1 wherein the internucleotide linkages are selected from the group consisting of natural and non-natural linkages.

~~2A.~~ (Previously amended) The polynucleotide of claim 1 wherein the polynucleotide encoding the polypeptide of SEQ ID NO:2 is a DNA polynucleotide comprising the polynucleotide sequence of SEQ ID NO: 1.

~~3B.~~ (Previously amended) A purified and isolated polynucleotide that is an expression vector comprising the polynucleotide of claim 1.

~~4B.~~ (Previously amended) A purified and isolated host cell comprising the expression vector of claim 5.

~~5A.~~ (Previously amended) A process for expressing a MurC polypeptide of *Pseudomonas aeruginosa* in a recombinant host cell, comprising:

- ~~3B.~~ and,
- (a) transforming a suitable host cell with the expression vector of claim
 - (b) culturing the host cell of step (a) in and under conditions which allow expression of said the MurC polypeptide from said expression vector.

~~6B.~~ (Previously amended) A purified and isolated polypeptide having the amino acid sequence of SEQ ID NO: 2.

~~7B.~~ (Currently amended) A method of determining whether a candidate compound is an inhibitor of a *Pseudomonas aeruginosa* MurC polypeptide comprising:

(a) providing at least one host cell harboring an expression vector that includes a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO: 2, and

(b) culturing said host cell under conditions that promote the expression of said polypeptide, and

(bc) contacting said at least one cell with the candidate to permit the interaction of the candidate with the MurC polypeptide, and

(ed) determining whether the candidate is an inhibitor of the MurC polypeptide by ascertaining the activity of the polypeptide in the presence of the candidate.

8/10. (Previously amended) The method of claim ⁷ wherein the polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO: 2 has the polynucleotide sequence of SEQ ID NO: 1.

9/11. (Currently amended) The method of claim ⁷ wherein the determination of activity in step (ed) comprises comparing a measurement of MurC polypeptide activity of said at least one cell before step (bc) to a measurement of MurC polypeptide activity of said at least one cell after step (bc).

12. (Withdrawn) A compound that is an inhibitor of a polypeptide having an amino acid sequence selected from the group consisting of

- (a) a polypeptide having an amino acid sequence of SEQ ID NO:2,
- (b) a polypeptide that is a naturally occurring mutant or polymorphic form of (a).

13. (Withdrawn) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and an inhibitor of a polypeptide having an amino acid sequence selected from the group consisting of

- (a) a polypeptide having an amino acid sequence of SEQ ID NO:2,
- (b) a polypeptide that is a naturally occurring mutant or polymorphic form of (a).

14. (Withdrawn) A method of treatment of a patient in need of prophylactic or therapeutic treatment for a bacterial infection comprising administering to the

patient an effective amount of an inhibitor of a polypeptide having an amino acid sequence selected from the group consisting of

- ~~Canceled~~
- (a) a polypeptide having an amino acid sequence of SEQ ID NO:2,
 - (b) a polypeptide representing a naturally occurring mutant or polymorphic form of (a).

~~10~~ ~~15~~ (Previously amended) A method of determining whether a candidate compound is an inhibitor of a *Pseudomonas aeruginosa* MurC polypeptide comprising:

- (a) providing a sample that includes a MurC polypeptide having the amino acid sequence of SEQ ID NO: 2, and
- (b) contacting said sample with the candidate to permit the interaction of the candidate with the MurC polypeptide, and
- (c) determining whether the candidate is an inhibitor of the MurC polypeptide by ascertaining the activity of the MurC polypeptide in the presence of the candidate.

16. (Canceled) The method of claim 15 wherein the polypeptide has the amino acid sequence of SEQ ID NO:2.

~~11~~ ~~17~~ (Currently amended) The method of claim ~~15~~¹⁰ wherein in step (c) the relative activity is determined by comparing a measurement of MurC polypeptide activity of the sample before step (b) to a measurement of MurC polypeptide activity of the sample after step (b).